ABSTRACT:

The spectroscopic emission of zinc plasma along with CCD imaging profile has been studied. The zinc target has been irradiated with a Q-switched Nd:YAG laser (1064 nm, 290 mJ, 10 ns, 29 MW) in air at atmospheric pressure. The plasma emission is recorded with 100 ns integration time. Boltzmann plot method and Stark broadening profile of the transition line has been used to estimate the electron temperature (Te ) and electron density (Ne ) respectively. Estimated values of Te and Ne is in the range of (5700–6756) K and (1.6 × 1015-3.39 × 1015) cm-3 at three laser shots respectively.